Central Valley Water Board Staff Responses to Technical Issues Committee Recommendations

Sediment Toxicity Focus Group Recommendation #1

Recommendation Name: Follow-up Activities After Observed Sediment Toxicity

Staff Response

Sediment Toxicity Recommendation #1 is supportable with the following text changes in the MRP:

- 1. Clarify that the recommendation applies only when *Hyalella azteca* is the test species.
- 2. TOC and grain size should be measured on all sediment samples, even those tested for pesticides only, which provides information regarding potential toxicity.
- 3. Follow-up analyses must begin within 2 business days of when the toxicity criterion described above is exceeded.

Staff's Recommended Language

Language to be incorporated into the MRP:

"Sediment samples that show "statistically significant" toxicity to Hyalella azteca at the end of an acceptable test and that exhibit a ≥20% reduction in organism survival compared to the control will require chemical analysis of the same sample in an effort to determine the possible cause of toxicity. When sediment samples are collected for toxicity analysis, additional sample volume sufficient for the recommended chemical and physical analyses must be collected, in the event that the sample exhibits toxicity. All sediment samples must be analyzed for total organic carbon (TOC) and grain size. Analysis for TOC is necessary to evaluate the expected magnitude of toxicity to the test species. This additional sample volume must be held in frozen storage, until the results of the toxicity analysis are available. If the sample is not toxic to the test species, the additional sample volume can be discarded. If the toxicity criterion described above is exceeded, then the additional sample volume must be analyzed for Bifenthrin, Cyfluthrin, Lambda-Cyhalothrin, Cypermethrin, Deltamethrin, Esfenvalerate, Fenpropathrin, Permethrin, and Chlorpyrifos. Analysis at practical reporting limits of 1 ug/kg on a dry weight basis for each pesticide is required to allow comparison to established lethal concentrations of these chemicals to the test species. This follow-up analysis must begin within 2 business days of when the toxicity criterion described above is exceeded." If the test species Chironomus tentans is used, an Executive Officer approved follow-up procedure for toxic results must be established prior to conducting toxicity testing. Additionally, the sample must be analyzed for total organic carbon (TOC) and grain size. Analysis for TOC is necessary to evaluate the expected magnitude of toxicity to the test species.

Sediment Toxicity Focus Group Recommendation #2

Recommendation Name: Timing and Frequency for Sediment Toxicity Testing

Staff Response

Sediment Toxicity Recommendation #2 is supportable with the following addition to text of the MRP: "If appropriate sediment is not present at the water quality monitoring site, an alternative site with appropriate sediment shall be identified for sediment toxicity testing."

Decisions regarding frequency of sediment sample collection have non-technical as well as technical considerations.

Staff's Recommended Language

Language to be incorporated into the MRP:

"Sampling and analysis for sediment toxicity shall be carried out at each location established by the Coalition for water quality monitoring, if appropriate sediment (i.e., silt, clay) is present at the site. If appropriate sediment is not present at the water quality monitoring site, an alternative site with appropriate sediment shall be identified for sediment toxicity testing. Sediment samples shall be collected and analyzed for toxicity twice per year, with one sample collected between August 15 and October 15, and sample collected between March 1 and April 30, each year. The Executive Officer may request different sample collection timing and frequency under a management plan. If Coalitions wish to deviate from the written timing and frequency requirements, the Coalition representative must provide written, scientifically defensible justification for the change. for review by the Executive Officer. This justification would recognize that geographic or watershed specific characteristics may justify modifications to the baseline MRP requirements, but that such changes must address the intent of the MRP requirement, be scientifically based, and be approved by the Executive Officer."

Lab Round Table Focus Group Recommendation #1

Recommendation Name: Analytical Methods Used for Chemistry Analysis

Staff Response

Lab Round Table Recommendation #1 is supportable with the following addition to text in the QAPP: "The validation package (as described) must be received and approved prior to utilizing the requested method for any project samples."

Staff's Recommended Language

Language to be incorporated into Attachment B, QAPP:

"Analytical methods used for chemistry analyses must follow a procedure approved by USEPA or provided in Standard Methods for the Examination of Water and Waste Water 19th Edition. Where no such methods exist, United States Geological Survey (USGS), American Society of Testing Materials (ASTM), and Association of Official Analytical Chemist (AOAC) methods may be used by accredited laboratories. In the event that the requirements of the Monitoring and Reporting Program of the Conditional Waiver cannot be supported by any of the above methods, then laboratories must submit a performance-based procedure for Central Valley Water Board Executive Officer's approval. This will require a peer-reviewed published method (National Environmental Laboratory Accreditation Program NELAP) or submittal of a performance-based method validation package method based upon EPA protocol. the protocol described (EPA).

Laboratory development of a validation package and Standard Operating Procedures (SOP) is required when analytes or quantification levels are outside the analyte list or differ by ten times the measurement levels stated in the published method. The validation package shall include all the elements for the "Initial Demonstration of Laboratory Capability", which contains:

- (1) Method Detection Limits (MDL) Studies (the analyst shall determine the MDL for each analyte according to the procedure in 40 Code of Federal Regulation (CFR) 136, Appendix B using the apparatus, reagents, and standards that will be used in the practice of this method).
- (2) Initial precision and recovery (IPR).
- (3) Linear calibration ranges.
- (4) Quality control sample (QCS), where applicable:

The laboratory must provide validation data and SOP upon request by the Central Valley Water Board staff. The validation package (as described) must be received and approved prior to utilizing the requested method for any project samples. The SOPs requested for Performance Based Methods (PBMs) from laboratories will be kept confidential upon request. among Central Valley Regional Board staff."

(1) Please read the "Regional Board Follow Items" (attach file for the recommendation #1) for more detailed on procedures to submitting confidential information to Central Valley Water Board.

Lab Round Table Focus Group Recommendation #2.1

Recommendation Name: Quality Control Requirements for Constituents Listed in Table 1 of the MRP

Staff Response

Lab Round Table Recommendation #2.1 is supportable with the reference to Section 5.0 deleted and the phrase "expected to be" deleted. Text will be incorporated into the MRP.

Staff's Recommended Language

Language to be incorporated in the MRP:

"Quality Control requirements are expected to be applicable to all the constituents listed in Table 1 of the MRP as listed in the appropriate method."

Lab Round Table Focus Group Recommendation #2.2

Recommendation Name: Quality Control for Table 1 Analytes (Field Precision)

Staff Response

Lab Round Table Recommendation 2.2 is supportable with the following text changes:

- Add the following phrase regarding follow-up when the RPD is >25% (consistent with the SWAMP QAMP):
 - "Field duplicates with failed results (RPD >25%) do not require re-sampling. However, this data should be flagged and field teams should be notified so that the source of error can be identified and corrective actions taken before the next sampling event."
- Delete the phrase, "within the limits and constraints of the situation". This phrase is ambiguous and it is unclear what it refers to.

Text changes will be made in the MRP and definitions will be incorporated into an information sheet.

Staff's Recommended Language

Language to be incorporated in the MRP:

"A field duplicate or field split sample will be collected at the rate of 5% for each analysis (or one set per sampling event, whichever is more frequent). The evaluation of field precision must be addressed in the coalition QAPP. QAPP acceptance criteria for laboratory precision shall be based only on laboratory-based duplicate samples such as duplicate matrix spikes, blank spikes, laboratory control materials, or certified reference materials. For bacterial analyses, no assessment of field precision is required but laboratories are required to meet methodological precision requirements. Field duplicates with failed results (RPD >25%) do not require resampling. However, this data should be flagged and field teams should be notified so that the source of error can be identified and corrective actions taken before the next sampling event."

Language to be incorporated in an Information Sheet:

"Field Duplicates/Field Splits – A field duplicate is a separate sample collected in the same manner and as close in time as possible to the original sample. A field split is a larger volume sample that is collected, homogenized, and split into duplicate samples in the field. A field duplicate or field split sample will be collected at the rate of 5% for each analysis (or one set per sampling event whichever is more frequent). The purpose of this effort is to examine field homogeneity as well as sample handling. within the limits and constraints of the situation. Results from field duplicate analyses are for informational purposes and can indicate natural variation or problems related to field sampling techniques."

Lab Round Table Focus Group Recommendation #3

Recommendation Name: Laboratory Quality Control (Method Blanks)

Staff Response

Lab Round Table Recommendation #3 is supportable as is. Text changes will be incorporated into the QAPP and an information sheet for the MRP.

Staff's Recommended Language (No changes from TIC Recommendation)

Language to be incorporated into the QAPP:

"When laboratories obtain detectable concentrations of a specific analyte in the method blanks as part of their laboratory quality control, they need to re-extract and re-analyze in the following circumstances:

"METALS: If any analyte concentration in the method blank is above the PQL, the lowest concentration of that analyte in the associated samples must be 10 times the method blank concentration. Otherwise, all samples associated with that method blank with the analyte's concentration less than 10 times the method blank concentration and above the PQL must be re-digested and re-analyzed for that analyte. The sample concentration is not to be corrected for the method blank value:

ORGANICS: If any analyte concentration in the method blank is above the PQL, all samples associated with that method blank must be re-extracted and re-analyzed for that analyte. The exception to the above requirement is for common laboratory contaminants such as volatile solvents and phthalates where all samples associated with that method blank with an analyte concentration less than 10 times the method blank concentration and above the PQL must be re-digested and re-analyzed for that analyte."

Language to be incorporated in an information sheet:

"This approach will provide flexibility for the laboratories that are doing the analysis for the Coalitions through various contracts. It is expected that the proposed approach will be applied only to those constituents that are analyzed with methods that require specific preparation methods for extraction.

If the recommendation is implemented, the quality of the data provided will not be affected. Samples with detections close to the detection in the blank will still be reanalyzed."

Lab Round Table Focus Group Recommendation #4.1

Recommendation Name: Changes to the Minimum Monitoring Requirements (Table 1) – Addition of Fenpropathrin

Staff Response

Lab Round Table Recommendation #4.1 is supportable as is. Text changes will be incorporated into Table 1 of the MRP.

Staff's Recommended Language (No changes from TIC Recommendation)

Language to be incorporated into the MRP, Table 1:

Fenpropathrin will be added to the pyrethroids analysis in water with a maximum PQL of 0.05 ug/L for water and 1 ng/g for sediment.

Lab Round Table Focus Group Recommendation #4.2

Recommendation Name: Changes to the Minimum Monitoring Requirements (Table 1) – Addition of TOC in Sediment

Staff Response

Lab Round Table Recommendation #4.2 is supportable if the footnote for Table 1 is removed. All sediment samples must be analyzed for total organic carbon (TOC) and grain size, not just when toxicity is significant. Analysis for TOC is necessary to evaluate the expected magnitude of toxicity to the test species. TOC provides information about the potential for toxicity with detected pesticides. Automatic analysis will also reduce the potential for laboratory error and omission of the TOC test.

Text changes will be incorporated into Table 1 of the MRP.

Staff's Recommended Language

Language to be incorporated into the MRP, Table 1:

Include Total Organic Carbon analysis in sediment as part of the Minimum Analytical Monitoring Requirements. The analytical methods recommended for this analysis are EPA 415.1 and EPA 9060. The maximum PQL for this analysis is 200 mg/kg. A footnote to Table 1 should state that the TOC test is only required when the toxicity test is significant.

Recommendation Name: Trigger for Toxicity Test Re-sampling

Staff Response

Triggers Recommendation #1 is supportable with the addition of the word "field" for clarity. Text will be incorporated into the MRP.

Staff's Recommended Language

Language to be incorporated into the MRP:

"When a "statistically significant" reduction is observed for a sample at the end of an acceptable test (i.e., meets EPA test acceptability criteria), but the magnitude of the reduction between the sample and the control is <20%, follow up **field** sampling will not be required. which is consistent with the approach applied by SWAMP monitoring efforts. Samples that are "statistically significant" at the end of an acceptable test and that exhibit a \geq 20% reduction in organism response compared to the control will require follow-up **field** sampling.

Samples that exhibit a statistically significant reduction in organism response when compared to the laboratory control must still be reported to the RWQCB as an exceedance of the narrative water quality objective for toxicity."

Recommendation Name: Follow-up Monitoring for Analytical Chemistry and Bacteriological Exceedances

Staff Response

The concept of developing a Coalition-specific follow-up plan for exceedances of analytical chemistry or bacteriological data results is supported by Staff. However, the TIC Recommendation could use further development by providing the essential technical elements to be addressed in the follow-up plan developed by each Coalition. These elements may include, but are not limited to, the following:

- Consider expediting laboratory turn around time.
- For each monitoring site the Coalition will have pre-defined upstream monitoring stations in their MRPP; this will ensure an efficient follow-up monitoring protocol.
- Conduct re-sampling at the site of the exceedance as part of a strategy to characterize the temporal extent and magnitude of exceedance(s).
- Consider a routine monitoring frequency that would negate the need for follow-up monitoring (e.g., monthly)
- Identify a strategy to quickly determine pesticide use in the area(s) of concern (i.e., build relationships with farmers, agricultural commissioner and other appropriate entities that will allow the Coalition to quickly assess where and when recent pesticide use has occurred).
- Evaluation of source water

Additionally, it needs to be clarified that a recent Board Order requires the development of a Management Plan when more than one exceedance occurs within a 3-year period. Staff is working on the required elements of a Management Plan, but Source Identification is clearly one of these elements. Coalition-specific follow-up plans will be developed as part of Management Plan requests.

Staff proposes to work with stakeholders over the next few months to integrate Coalition-specific follow-up plan requirements into the management plan process.

Recommendation Name: Follow-up Sampling for Water Quality Exceedances of Field Parameters

Staff Response

The concept of developing a Coalition-specific follow-up plan for exceedances of field parameters is supported by Staff. However, the TIC Recommendation could use further development by providing the essential technical elements to be addressed by each Coalition. These elements may include, but are not limited to, the following:

- Develop a strategy to determine whether the exceedance(s) is caused directly or indirectly by irrigation runoff or other non-agriculture factors and influences
- Develop a strategy to evaluate diurnal fluctuations in field measurements
- Evaluate issues related to algae growth as it affects field parameters
- Develop site-specific criteria for conducting upstream sampling and re-sampling and timing of both

Additionally, it needs to be clarified that a recent Board Order requires the development of a Management Plan when more than one exceedance occurs within a 3-year period. Staff is working on the required elements of a Management Plan, but Source Identification is clearly one of these elements. Coalition-specific follow-up plans will be developed as part of Management Plan requests.

Staff proposes to work with stakeholders over the next few months to integrate Coalition-specific follow-up plan requirements into the management plan process.

Recommendation Name: Trigger for Storm Water Monitoring

Staff Response

The concept of a Coalition-specific storm water monitoring strategy is supported by Staff. However, the TIC Recommendation could use further development by providing the essential technical elements that must be addressed in the monitoring strategy developed by each Coalition. These elements include, but are not limited to, the following:

- Timing, frequency and duration of storm events
- Sample first storm after dormant spray or other agricultural practices such as field tilling, row-crop pre-emergent, etc.
- Runoff potential and soil absorption information
- Laboratory turn around timing as it relates to storm events

Staff's Recommended Language

Language to be incorporated into the MRP:

"The Coalition Group must identify the monitoring frequency and measuring parameters that will be used to evaluate storm event runoff. Table XX (Alternatives Table) provides some suggestions for a monitoring frequency framework that could be used to meet the storm event monitoring objective, such as sampling at first flush, and next storm after agriculture practices occur. This may include developing a routine for monthly monitoring that will occur year round, 12 months of the year. If this routine monthly monitoring is utilized, then during storm seasons, the monthly monitoring will be tied to the first storm event that month. If no storm event occurs, the monthly monitoring shall take place at the end of the month. Regardless of approach proposed by the Coalition, significant justification and rationale for the approach must be provided in the Coalition MRP Plan and be approved by the Executive Officer of the Central Valley Water Board.

Regardless, photo-monitoring must occur during all sampling events, including sampling events that are aborted, due to **absence** lack of flow, or dangerously excessive flow.

The Coalitions Groups must propose their monitoring schedule that is suited to the individual characteristics (hydrology, topography, soils, etc.) in their MRP Plan.

The Coalition must follow the Board approved MRP baseline approach until a Coalitionspecific MRPP is approved by the Executive Officer."

Recommendation Name: Follow-up Monitoring for Toxicity Exceedances (Source Identification)

Staff Response

The concept of developing a Coalition-specific follow-up plan for toxicity exceedances is supported by Staff. However, the TIC Recommendation could use further development by providing the essential technical elements to be addressed by each Coalition. Some of these elements include, but are not limited to, the following:

- Timely pesticide use information
- Correlate pesticide application timing with transport time to surface waters
- Incorporate site-specific criteria such as upstream sources, branching of water body, and historical information.
- Communication with landowners and Agricultural Commissioners
- Criteria for conducting upstream monitoring and/or for re-sampling of same site

Additionally, it needs to be clarified that a recent Board Order requires the development of a Management Plan when more than one exceedance occurs within a 3-year period. Staff is working on the required elements of a Management Plan, but Source Identification is clearly one of these elements. Coalition-specific follow-up plans will be developed as part of Management Plan requests.

Staff proposes to work with stakeholders over the next few months to integrate Coalition-specific follow-up plan requirements into the management plan process.

Recommendation Name: Flow Calculations

Staff Response

Triggers Recommendation #6 is supportable with the following additional language: "during each specific monitoring event"

Text will be incorporated into the MRP.

Staff's Recommended Language

Language to be incorporated into the MRP:

"When possible the USGS method should be used at all wadeable and nonwadeable stream sites for accurately determining flow during each specific monitoring event. If the USGS method cannot be used then flow measurements should be taken near the stream bank of the site or the float method can be used. The approximate location and number of stream flow measurements should be documented on the data sheets. Photo documentation should also be used at these sites. Data files for flow data should contain a comment column that will allow a flag for flow measurements that have a high degree of uncertainty. Flow data with a high degree of uncertainty should not be used for pesticide (or other constituent) instantaneous loading calculations."

Recommendation Name: Assessment Completeness

Staff Response

Staff can support Recommendation #7, which in fact does support staff's proposal in the Tentative MRP to utilize a Long-term Monitoring Strategy (LTMS). However, more guidance is needed regarding critical technical elements of an LTMS. For example, what are the technical considerations that need to be addressed that would characterize a monitoring site and make it representative of another area that is not being monitored? Or, what are the technical considerations regarding drainage size that might warrant different monitoring strategies? The LTMS will need to address the following elements:

- Timing and frequency of sample collection
- Completeness of coverage of the Coalition area (i.e., sufficient number of sampling sites to assess entire area and all drainages)
- Systematic approach to sample initial monitoring sites and sites upstream of initial sites to ensure that area is fully characterized and assessed.
- Characterize each monitoring site (e.g., representativeness, geology, hydrology, crop types)
- Rotation of sampling at monitoring sites
- Diversity of monitoring sites across the Coalition Group area (e.g., hydrology, size and flow)
- Include sites in areas of known water quality impairments, even if they are not currently identified on the CWA 303(d) list
- Include compliance monitoring sites for TMDLs, where appropriate
- Provide scientific rationale for the site selection process based on historical and/or ongoing monitoring, drainage size, and land use
- Identify priorities with respect to work on specific watersheds, subwatersheds, and water quality parameters

This is an acceptable recommendation, but could use more rigorous technical input. Staff proposes to continue to work with stakeholders over the next several months to develop the technical elements of an LTMS.

Recommendation Name: Toxicity Tests with Controls that did not Meet USEPA Test Acceptability Criteria (TAC) for NPDES Testing

Staff Response

At this time, Triggers Recommendation #8 can only be partially supported by Staff. Staff is challenged by some of the rationale presented in the Problem Statement and the Recommendation as described below:

- The last sentence of the 2nd paragraph in the Problem Statement states: "The EPA acknowledges that 1 in 20 toxicity tests may not meet test acceptability criteria based on statistical protocols alone." Staff believes that this statement in the recommendation is taken out of context. In the EPA document, the 1 in 20 refers to reference toxicant test control charts, not test acceptability criteria.
- In the 5th paragraph the statement is made, "if a sample is toxic, there must be a statistically significant negative effect, if there is no such negative effect, then *by definition*, there is no toxicity assuming that the testing was properly performed following the EPA method." Staff does not agree with this logic because the control treatment has failed to meet TAC; therefore, the test was not performed properly and the statistical comparison is invalid.
- The last bulleted item of the Problem Statement addresses algal growth that is markedly
 greater in a water sample than in a control treatment. Again, this argument is based on
 an invalid statistical comparison with control samples that failed.
- Additionally, the issue of enhanced algal growth in a water sample has not yet been addressed in the ILP. Staff is concerned with this issue because markedly enhanced algal growth may be an indicator of excess nutrients in a water body.

With regard to the Recommendation:

- Staff is challenged by the logic used in Decision Steps 3 and 4 because they rely on statistical comparisons with an invalid control. The statistical analyses cannot be considered valid if results of the control treatment did not meet test acceptability criteria. Therefore, determination of whether the sample is toxic or not toxic cannot reliably be made. Staff is recommending changes in these steps that do not rely on statistical analysis. These changes are shown below in the section titled "Staff's Recommended Language".
- It is important to recognize that Recommendation #8 often refers to a Program Completeness Standard, which has not yet been defined. Staff will meet with stakeholders to develop the Program Completeness Standard.

Staff's Recommended Language

Language to be incorporated in the QAPP:

<u>"Decision Step 1:</u> If the control treatment meets all US EPA TAC, then proceed to statistical analyses for determination of the presence of statically significant reductions in organism survival or algal growth. For samples that exhibit toxicity, the follow-up requirements in the ILP MRP must be followed, **with respect to follow-up sampling and TIE.**

<u>Proposed Decision Step 2a:</u> If the control treatment exhibits <90% survival and an acute test of a water sample exhibits 90-100% survival, and the program completeness standard for the test <u>is</u> met (e.g., ≥90% of testing performed successfully to meet SWAMP compatibility), no further testing is required. The test result should be "flagged" to denote <90% survival in the Control treatment. If an acute test of a water sample exhibits 90-100% survival, and the program completeness standard for the test is <u>not</u> met, then a re-test must be initiated within 24 hours of the observation of a Control treatment with <90% survival. In this case, both the original test results and the re-test results must be reported by the Coalition; the re-test results should be flagged to note that the re-test was initiated outside of the holding time limit. New samples must be collected if the re-test does not meet US EPA TAC.

Proposed Decision Step 2b: If a control treatment does not meet the US EPA TAC and an algal test of a water sample exhibits an algal cell density that is greater than the algal cell density at the control treatment, and the Control test does not meet the US EPA TAC, it is proposed that instead of the one-tailed statistical tests (which ask only if the test response for a sample is "less" than the Control), a 2-tailed statistical test will be performed. If the results of that test indicate that the algal growth in the water sample is significantly greater than the Control treatment, and the program completeness standard for the test is met, then the sample should be determined to be not toxic; test result should be "flagged" to denote <200,000 cells/ml and/or CV>20% survival in the control treatment. If the program completeness standard for the test is not met, then a re-test must be initiated within 24 hours of the termination of the initial algal test. In this case, both the original test results and the re-test results must be reported by the Coalition; the re-test results should be flagged to note that the re-test was initiated outside of the holding time limit. New samples must be collected if the re-test does not meet US EPA TAC.

<u>Proposed Decision Step 3:</u> If a control treatment does not meet US EPA TAC, and the associated ambient water sample(s) have <90% survival (for an acute toxicity test) or the algal growth is less than the control, and the sample <u>is not toxic</u>, then Best Professional Judgment must be used to evaluate the data. it is expected that the Regional Board will be notified within 1 business day of the observation of the results in question so that an agreement can be reached regarding how to proceed. At a minimum, retesting will be required within 24 hours of the observed test failure. If re-testing does not begin within 24 hours, then re-sampling must be conducted within 48 hours of the observed test failure. Some actions may include no further testing, retesting, or re-sampling.

Proposed Decision Step 4: If either an acute test or an algal test does not meet the US EPA TAC and statistical analyses indicates that the <u>sample is toxic</u>, then the data must be assessed against the triggers in the MRP (e.g., samples with significant toxicity must be re-sampled, samples with ≥50% reduction in organism response requires a TIE, and samples with 100% mortality require a dilution series). If the program completeness standard for the test <u>is</u> met (e.g., ≥90% of testing performed successfully to meet SWAMP compatibility), no further testing is required; test result should be "flagged". If the program completeness standard for the test is <u>not</u> met, then a re test must be initiated within 24 hours of the observation. In this case, both the original test results and the re-test results must be reported by the Coalition; the re-test results should be flagged to note that the re-test was initiated outside of the holding time limit. New samples must be collected if the re-test does not meet US EPA TAC.

The reporting of data that do not meet US EPA TAC must also include an assessment from the laboratory as to what may have caused the test control performance issue, what the laboratory is doing to prevent this from happening again in the future, a comparison of the data against the EPA test performance measures, and a comparison of the data against the ILP required completeness criteria in the Coalition's QAPP."